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Remarks

The Office Action mailed lime 17, 2003 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 2-3, 5-11, 13-17, 1925, and 27-35 are now pending in this application. Claims 1, 4, 12, 18, and 26 were canceled previously. Claims 15 and 31 have been amended. No new matter has been added. Claims 2-3, 5-11, 13-17, 1925, and 27-35 stand rejected.

The objection to Claims 19 20 is respectfully traversed. Claim 33 provides proper antecedent basis for Claims 19 and 20. Accordingly, Applicants respectfully request that the objection to Claims 19 and 20 be windrawn.

The rejection of Claims 2-3 5-7 15-17, 21, 27-28 3 32 and 34 under 35 U.S.C. §101 is respectfully traversed. Claims 15 and 31 have been amended, and are submitted to be directed to statutory subject matter.

Claims 16, 17, 21-25, 27-28, 30, 34, and 35 depends siredly or indirectly, from independent Claim 15. When the resistations of Claims 16, 17, 21-25, 27-28, 30, 34, and 35 are considered in combination with the recitations of Claim 16, applicants submit that Claims 16, 17, 21-25, 27-28, 30, 34, and 35 are directed toward status or subject matter.

Claims 2, 3, 5-11, 13, 14, 11, 20, 29, 32, and 33 directly or indirectly, from independent Claim 31. When the next ations of 2, 3, 5-11, 13, 14, 19, 20, 29, 32, and 33 are considered in combination with the secretations of Claim 32. Applicants submit that Claims 2, 3, 5-11, 13, 14, 19, 20, 29, 32, and 33 are clarected toward statutory subject matter.

For the reasons set forth above, Applicants respect to lyrequest that the Section 101 rejection of Claims 2-3, 5-7, 15-17, 21, 27-28, 31, 32, and 34 be withdrawn.

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The rejection of Claims 2-3 17, 15-17, 21, and 31 under 32 U.S.C. § 103 as being unpatentable over Smith (U.S. Pat. No. 5,570,310) in view of Watson (U.S. Pat. No. 5,629,780) is respectfully traversed.

Smith describes a computation of a logarithm by a case processor (column 6, lines 20-21). In step (10), the processor reads from some memory region in instruction which causes the logarithm of an argument x to be evaluated (column)6, lines 1 (28). In step (20), the processor to some numerical base is to reads from some memory region this argument x whose logic represent a particular numeric value, The argument may be computed (column 6, lines 23-2) infinity, or Not a Number (NaN) (calume 6, lines 25-27). Whether the argument represents a particular numeric value or not, it may primay not have a logarithm which can be represented by a real number (column 6, lines 27-31). Step (30) constructs il mumber y from the argument x such that if x represents a normalized numerical value, then x = 12 y with 1≤y<2 (column 6, sents a numeric value which lines 30-32). If x does not represent a numeric value, y still can be used in arithmetic operations will out causing any ons, which can enhance speed and performance by not having to direct initially for special conditions (column 6, lines 32-37). The early generation of a valid y provides a very fast route for computing the logarithm in almost all cases normally encountered (college 5, lines 37-38). He additional processing required for a ig. 2 (column 5, lines 38-40). Step (40) uses denormalized numeric argument is in the tasis for reading from memory a the bit representation of the argument x or of the umber an efficient way of determining which predetermined quantity a (column lines 41-44). predetermined quantity a is to be read is described in FIG 3 recolumn 6, lines 44-46). Step (50) determines whether the logarithm of the argument is exist compo (column 6, lines 47-48). If it does, it returns a close approximation to the logarithm of a led by evaluating log(y)=nn 6, lines 48-50). The details 2)+log(y) in step (4) log(a)+log(1+(ay-1)) and log(x)=kFIG. 3 (column 6, lines 50-52). of one way in which this can be pe ned will be descri not exist, a return part which provides further information If the logarithm of the argument do

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is performed in step (70) (column 6, lines 52-54). An efficient way of returning this further information in one environment is essentived in further dentilines G. 4 (column 6, lines 54-56).

Watson describes a method for performing color of grayscale image compression using a Discrete Cosine Transform (DCT) (postfact). In the methor as prage mode (16) is segmented into the following steps: color transform (31), down-sample 32, block (33), DCT (34), initial matrices (35), quantization matrix entire (36), quantize (38), and entropy code (40) (column 5, line 67 – column 6, line 4). After the calculation of a 🗓 ak (70) has been determined, an ar (36) begins and includes iterative process of estimating the quantization matrix op processing segments (56, 58, 60, 62, 64, and 66) (column) times 8-11). The quantization matrix optimizer transforms each block of the image in an initial matrix (35) into segments (56). A bisection method is then used to increment or decrement the initial matrices. In the bisection method, a range is established for delle between lower and upper bounds, typically 1 to 255 ligated at midpoint of the range (column 10, lines 28-30). A perceptial error matrix $p_{\nu,\nu}$ greater than a target e nor parameter, then the lower bound is (column 10, lines 30-32). If p_{u,v,θ} is reset to the mid-point (column 10, lines \$2-34).

Claim 15 recites a computing device comprising a migricity in which binary floating point representations of particular numbers are stored, the device being configured to "partition a mantissa region between 1 and 2 in a N equally spaced sub-regions; precompute centerpoints a_i of each of the N equally spaced sub-regions, where $i=0,\dots M$, wherein N is sufficiently large so that, within each sub-region, a first degree polynomial in m eominates $\log(m)$ to within a preselected degree of accuracy for any m within the sub-region, where m is a mantissa of a binary floating point representation of a number; compute a value of $\log(x)$ for a binary floating point representation of a particular number x stored in said memory utilizing the first degree polynomial in m, wherein $\log(x)$ is a function of a distance petween a_i and the mantissa; and generate an image by using the constituted value of $\log(x)$.

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outation, describe or suggest a Neither Smith nor Watson, insidered alone or in computing device comprising a meripry in which binary illegates point representations of particular numbers are stored, the device being configured to partition a mantissa region between 1 and 2 into N equally spaced sub-regions, precompute cemembrines at of each of the N equally spaced sub-regions, where i=0,...,N=1, wherein N is sufficient in large so that, within each subcomputes log(m) to region, a first degree polynomial in gion where m is a manifest of a binary floating point accuracy for any m within the subrepresentation of a number, compute a value of log(x) for a light floating point representation of a particular number x stored in said memory utilizing the less hegree polynomial in m, harlissa, and generate an image by wherein log(x) is a function of a distance between a and using the computed value of log(x)

Moreover, neither Smith nor Wasson, considered alone or in combination, describe or suggest a computing device configured to compute a value of $\log(x)$ for a binary floating point representation of a particular number x stored in said memory at lizing the first degree polynomial in m, wherein $\log(x)$ is a function of a distance perveen a_i and the mantissa. Rather, Smith describes that a close approximation to the logarithm as obtained by evaluating $\log(y)$ — $\log(a) + \log(1 + (ay-1))$ and that $\log(x) + \log(2) + \log(y)$, and watson describes that a bisection method is used to increment or decrement a matrix, when single pisection method includes establishing a range for $q_{u,v,\theta}$ between lower and upper beams, typically 1 to 255, a perceptual error matrix $p_{u,v,\theta}$ is then evaluated at midpoint of the range. For the reasons set forth above, Claim 1 is submitted to be patentals; over Smith invices of Watson.

Claims 16, 17, and 21 depend, directly or indirectly independent Claim 15. When the recitations of Claims 16, 17, and 21 are considered in combination with the recitations of Claim 15, Applicants submit that dependent Claims 16, 17, and 21 likewise are patentable over Smith in view of Watson.

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handn of a natural logarithm Claim 31 recites a method fliff computing an approtioning a mantissa region between 1 and 2 into N equally function including the steps of "part enterpoints a, of each of the N equally spaced sub-regions, spaced sub-regions; precomputing where i = 0, ..., N-1; selecting N sufficiently large so bit each sub-region, a first degree m of accuracy for any m within polynomial in m computes $\log(m)$ within a preselected marrissa of a binary regain point representation of a the sub-region, where m is a binary representation of a particular number, computing a value of log for a binary floating number x stored in a memory of a completing device utilizing e first degree polynomial in m, nce between a and the markissa; and generating an image wherein log(x) is a function of a di by using the computed value of log

Neither Smith nor Watson, compared alone or in comparint ation, describe or suggest a method for computing an approximation of a natural logarithm function including the steps of partitioning a mantissa region between 1 and 2 into N es ally spaced sub-regions, precomputing centerpoints a_i of each of the N equally gub-regions, where b-region, a first degree i=0,...,N-1, selecting N sufficiently large so that, for gree of accuracy for any m within polynomial in m computes $\log(m)$ by within a preselection the sub-region, where m is a binary matrix of a binary fide ting point representation of a number; computing a value of log a binary floating representation of a particular number x stored in a memory of a computing device until the first degree polynomial in m, e ingitissa; and generating an image wherein log(x) is a function of a distance between a, and by using the computed value of lo

Moreover, neither Smith nor Watson, considered alone or in combination, describe or suggest a method including computing a value of $\log(x)$ for a binary floating point representation of a particular number x stored in a memory of a computing device utilizing the

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first degree polynomial in m, wherein $\log(x)$ is a function of a distance between a_i and the mantissa. Rather, Smith describes that a close approximation to the logarithm is obtained by evaluating $\log(y) = -\log(a) + \log(1 + (ay-1))$ and that $\log(x) = \log(2) + \log(y)$, and Watson describes that a bisection method is used to increment or decrement a matrix, wherein the bisection method includes establishing a range for $q_{u,v,\theta}$ between lower and upper bounds, typically 1 to 255, a perceptual error matrix $p_{u,v,\theta}$ is then evaluated at midpoint of the range. For the reasons set forth above, Claim 31 is submitted to be patentable over Smith in view of Watson.

Claims 2, 3, and 7 depend, directly or indirectly, from independent Claim 31. When the recitations of Claims 2, 3, and 7 are considered in combination with the recitations of Claim 31, Applicants submit that dependent Claims 2, 3, and 7 likewise are patentable over Smith in view of Watson.

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it would have been obvious to one of ordinary skill in the art to modify Smith according to the teachings of the Watson. More specifically, as is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Rather, the present Section 103 rejection appears to be based on a combination of teachings selected from several patents in an attempt to arrive at the claimed invention. Specifically, Smith is cited for its teaching that a close approximation to the logarithm is obtained by evaluating $\log(y) = \log(a) + \log(1 + (ay-1))$ and that $\log(x) = \log(2) + \log(y)$, and Watson is cited for its teaching that a bisection method is used to increment or decrement a matrix, wherein the bisection method includes establishing a range for $q_{u,v,\theta}$ between lower and upper bounds, typically 1 to 255, a perceptual error matrix $p_{u,v,\theta}$ is then evaluated at midpoint of the range. Since there is no teaching or suggestion in the cited art for the claimed combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to

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deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants respectfully request that the Section 103 rejection be withdrawn.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.P Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion nor motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejections of Claims 2-3, 7, 15-17, 21, and 31 be withdrawn.

The rejection of Claims 8-9, 22-23, and 29-30 under 35 U.S.C. § 103 as being unpatentable over Smith in view of Wallschlaeger (U.S. Pat. No. 5,345,381) is respectfully traversed.

Smith is described above. Wallschlaeger describes a spiral scan computer tomography apparatus with improved image quality in comparison to conventional systems (column 1, lines 50-53). For systems using a spiral scan, interpolation algorithms have been developed which generate new data, by interpolation, corresponding to a planar slice from the spiral data before the actual image reconstruction (column 1, lines 29-33). Interpolation algorithms are then used on the spiral data in the form of attenuation values (column 1, lines 36-38). The attenuation values are scaled line integrals or scaled logarithms of the relative intensities (column 1, lines 38-39).

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Claims 22, 23, and 30 depend, directly or indirectly, from independent Claim 15 which recites a computing device comprising a memory in which binary floating point representations of particular numbers are stored, the device being configured to "partition a mantissa region between 1 and 2 into N equally spaced sub-regions; precompute centerpoints a_i of each of the N equally spaced sub-regions, where i=0,...,N-1, wherein N is sufficiently large so that, within each sub-region, a first degree polynomial in m computes $\log m$ to within a preselected degree of accuracy for any m within the sub-region, where m is a mantissa of a binary floating point representation of a number; compute a value of $\log(x)$ for a binary floating point representation of a particular number x stored in said memory utilizing the first degree polynomial in m, wherein $\log(x)$ is a function of a distance between a_i and the mantissa; and generate an image by using the computed value of $\log(x)$ ".

Neither Smith nor Wallschlaeger, considered alone or in combination, describe or suggest a computing device comprising a memory in which binary floating point representations of particular numbers are stored, the device being configured to partition a mantissa region between 1 and 2 into N equally spaced sub-regions, precompute centerpoints a_i of each of the N equally spaced sub-regions, where i=0,...,N-1, wherein N is sufficiently large so that, within each sub-region, a first degree polynomial in m computes $\log(m)$ to within a preselected degree of accuracy for any m within the sub-region, where m is a mantissa of a binary floating point representation of a number, compute a value of $\log(x)$ for a binary floating point representation of a particular number x stored in said memory utilizing the first degree polynomial in m, wherein $\log(x)$ is a function of a distance between a_i and the mantissa, and generate an image by using the computed value of $\log(x)$

Moreover, neither Smith nor Wallschlaeger, considered alone or in combination, describe or suggest a computing device configured to compute a value of $\log(x)$ for a binary floating point representation of a particular number x stored in said memory utilizing the first degree polynomial in m, wherein $\log(x)$ is a function of a distance between a_i and the mantissa. Rather,

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Smith describes that a close approximation to the logarithm is obtained by evaluating log(y)=log(a)+log(1+(ay-1)) and that log(x)=klog(2)+log(y), and Wallschlaeger describes a spiral scan computer tomography apparatus with improved image quality in comparison to conventional systems. For the reasons set forth above, Claim 15 is submitted to be patentable over Smith in view of Wallschlaeger.

Claims 22, 23, and 30 depend, directly or indirectly, from independent Claim 15. When the recitations of Claims 22, 23, and 30 are considered in combination with the recitations of Claim 15, Applicants submit that dependent Claims 22, 23, and 30 likewise are patentable over Smith in view of Wallschlaeger.

Claims 8, 9, and 29 depend, directly or indirectly, from independent Claim 31 which recites a method for computing an approximation of a natural logarithm function including the steps of "partitioning a mantissa region between 1 and 2 into N equally spaced sub-regions; precomputing centerpoints a_i of each of the N equally spaced sub-regions, where i=0,...,N-1; selecting N sufficiently large so that, for each sub-region, a first degree polynomial in m computes $\log(m)$ to within a preselected degree of accuracy for any m within the sub-region, where m is a binary mantissa of a binary floating point representation of a number; computing a value of $\log(x)$ for a binary floating point representation of a particular number x stored in a memory of a computing device utilizing the first degree polynomial in m, wherein $\log(x)$ is a function of a distance between a_i and the mantissa; and generating an image by using the computed value of $\log(x)$ ".

Neither Smith nor Wallschlaeger, considered abone or in combination, describe or suggest a method for computing an approximation of a natural logarithm function including the steps of partitioning a mantissa region between 1 and 2 into N equally spaced sub-regions, precomputing centerpoints a_i of each of the N equally spaced sub-regions, where

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i=0,...,N-1, selecting N sufficiently large so that, for each sub-region, a first degree polynomial in m computes $\log(m)$ to within a preselected degree of accuracy for any m within the sub-region, where m is a binary manissa of a binary floating point representation of a number; computing a value of $\log(x)$ for a binary floating point representation of a particular number x stored in a memory of a computing device utilizing the first degree polynomial in m, wherein $\log(x)$ is a function of a distance between a_i and the manissa; and generating an image by using the computed value of $\log(x)$.

Moreover, neither Smith nor Wallschlaeger, considered a one or in combination, describe or suggest a method including computing a value of $\log(x)$ for a binary floating point representation of a particular number x stored in a mentory of a computing device utilizing the first degree polynomial in m, wherein $\log(x)$ is a function of a distance between a_i and the mantissa. Rather, Smith describes that a close approximation to the logarithm is obtained by evaluating $\log(y) = \log(a) + \log(1 + (ay-1))$ and that $\log(x) = \log(2) + \log(y)$, and Wallschlaeger describes a spiral scan computer tomography apparatus with improved image quality in comparison to conventional systems. For the reasons set forth above, Claim 31 is submitted to be patentable over Smith in view of Wallschlaeger.

Claims 8, 9, and 29 depend, directly or indirectly, from independent Claim 31. When the recitations of Claims 8, 9, and 29 are considered in conbination with the recitations of Claim 31, Applicants submit that dependent Claims 8, 9, and 29 likewise are patentable over Smith in view of Wallschlaeger.

Applicants respectfully submit that the Section 03 rejection of the presently pending claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it would have been obvious to one of ordinary skill in the art to modify Smith according to the teachings of the Wallschlaeger. More specifically, as is well established, obviousness cannot be

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established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Rather, the present Section 103 rejection appears to be based on a combination of teachings selected from several patents in an attempt to arrive at the claimed invention. Specifically, Smith is cited for its teaching that a close approximation to the logarithm is obtained by evaluating $\log(y) = \log(a) + \log(1 + (ay-1))$ and that $\log(x) = \log(2) + \log(y)$, and Wallschlaeger is cited for its teaching that a spiral scan computer tomography apparatus with improved image quality in comparison to conventional systems. Since there is no teaching or suggestion in the cited art for the claimed combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason along. Applicants respectfully request that the Section 103 rejection be withdrawn

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte

Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.F.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion nor motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejections of Claims 8-9, 22-23, and 29-30 be withdrawn.

The rejection of Claims 10-11 and 24-25 uniter 35 U.S.C. § 103 as being unpatentable over Smith in view of Wallschlaeger and further in view of Watson is respectfully traversed.

Smith, Wallschlaeger, and Watson are described above.

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Claims 10 and 11 depend indirectly from independent Claim 31 which recites a method for computing an approximation of a ratural logarithm function including the steps of "partitioning a mantissa region between 1 and 2 into N equally spaced sub-regions; precomputing centerpoints a_i of each of the N equally spaced sub-regions, where $i=0,\ldots,N-1$; selecting N sufficiently large so that for each sub-region, a first degree polynomial in m computes $\log(m)$ to within a presence ed degree of accuracy for any m within the sub-region, where m is a binary manissa of a binary floating point representation of a number, computing a value of $\log(x)$ for a binary floating point representation of a particular number x stored in a memory of a computing device utilizing the first degree polynomial in m, wherein $\log(x)$ is a function of a distance between a_i and the mantissa; and generating an image by using the computed value of $\log(x)$.

None of Smith, Wallschlaeger, and Watson, considered alone or in combination, describe or suggest a method for computing an approximation of a natural logarithm function including the steps of partitioning a mantissa region between I and I into I equally spaced sub-regions, precomputing centerpoints a_i of each of the I equally spaced sub-regions, where $i=0,\ldots,N-1$, selecting I sufficiently large so that, for each sub-region, a first degree polynomial in I computes I to within a presclected degree of accuracy for any I within the sub-region, where I is a binary mantissa of a binary floating point representation of a number; computing a value of I logI for a binary floating point representation of a particular number I stored in a memory of a computing device unitaring the first degree polynomial in I wherein I logI is a function of a distance between I and the mantissa; and generating an image by using the computed value of I logI.

Moreover, none of Smith, Wallschlaeger, and Watson, considered alone or in combination, describe or suggest a method including computing a value of log(x) for a binary

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floating point representation of a particular number x so led in a memory of a computing device utilizing the first degree polynomial in m, wherein $\log(x)$ is a function of a distance between a_i and the mantissa. Rather, Smith describes a close approximation to the logarithm is obtained by evaluating $\log(y) = \log(a) + \log(1 + (ay - i))$ and that $\log(x) = \log(2) + \log(y)$, Wallschlaeger describes a spiral scan computer tomography apparatus with improved image quality in comparison to conventional systems, and Watson describes that a bisection method is used to increment or decrement a matrix, wherein the bisection method includes establishing a range for $q_{u,v,\theta}$ between lower and upper bounds; typically 1 to 255 a perceptual error matrix $p_{u,v,\theta}$ is then evaluated at midpoint of the range. For the reasons set for h above, Claim 31 is submitted to be patentable over Smith in view of Wallschlaeger and for hex in view of Watson.

Claims 10-11 depend, directly or indirectly, from independent Claim 31. When the recitations of Claims 10-11 are considered in combination with the recitations of Claim 31, Applicants submit that dependent Claims 10-11 likewise are patentable over Smith in view of Wallschlaeger and further in view of Wasson.

Claims 24-25 depend, directly or indirectly, from independent Claim 15 which recites a computing device comprising a memory in which binary floating point representations of particular numbers are stored, the device being configured to partition a mantissa region between 1 and 2 into N equally spaced sub-regions, precompute centerpoints a_i of each of the N equally spaced sub-regions, where i=0,...,N-1, wherein N is sufficiently large so that, within each sub-region, a first degree polynomial in m computes $\log m$ to within a preselected degree of accuracy for any m within the sub-region, where m is a mantissa of a binary floating point representation of a number; compute a value of $\log m$ to m a binary floating point representation of a particular number m stored in said memory utilizing the first degree polynomial in m, wherein $\log(n)$ is a function of a distance between m and the mantissa; and generate an image by using the computed value of $\log(n)$.

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None of Smith, Wallschlaeger, and Watson; conditiened alone or in combination, describe or suggest a computing device comprising a memory in which binary floating point representations of particular numbers are stored, the device being configured to partition a mantissa region between 1 and 2 into N equally spaced sub-regions, where x = 0. x = 0 wherein x = 0 is sufficiently large so that, within each sub-region, a first degree polynomial in x = 0 computes x = 0 to within a preselected degree of accuracy for any x = 0 where x = 0 where x = 0 is a mantissa of a binary floating point representation of a number, compute a value of x = 0 for a binary floating point representation of a number x = 0 stored in said memory utilizing the first degree polynomial in x = 0, where x = 0 is a function of a distance between x = 0 and the mantissa, and generate an image by using the computed value of x = 0.

watson considered alone or in Moreover, none of Smith, Wallschlaeger combination, describe or suggest a compliting devise compute a value of log(x) for a binary floating point representation of a particular number a stored in said memory utilizing the first degree polynomial in m, wherein $\log(x)$ is a function of a distance between a_i and the mantissa. Rather, Smith describes a close approximately He logarithm is obtained by evaluating $\log(y) = \log(a) + \log(1 + (ay 1))$ and that $\log(x) = \log(2) + \log(y)$, Wallschlaeger apparatus with improved image quality in describes a spiral scan computer tondography ap comparison to conventional systems, and Watson describe hat a bisection method is used to increment or decrement a matrix, wherein the bisection method includes establishing a range for erceptual error matrix puve is then quy, between lower and upper bounds, typica For the reasons set forth above, Claim 15 is submitted to be evaluated at midpoint of the range. || || patentable over Smith in view of Wallschlaeger and flutter in view of Watson.

Claims 24-25 depend, directly or indirectly from independent Claim 15. When the recitations of Claims 24-25 are considered in company with the recitations of Claim 15,

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Applicants submit that dependent Claims 24-25 likewise are patentable over Smith in view of Wallschlaeger and further in view of Watson

Braction of the presently pending Applicants respectfully subplit that the Sec claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it imodify Smith according to the would have been obvious to one of ordinary skill teachings of the Wallschlaeger and Watson as is well established, tings of the cited art to produce the obviousness cannot be established by combining claimed invention, absent some teaching, sugges ncentive supporting the combination. Rather, the present Section 103 rejection appear sedion a combination of teachings imed invention. Specifically, Smith selected from several patents in an attempt to arr cosmithm is obtained by evaluating is cited for its teaching that a close approximation wallschlaeger is cited for its $\log(y) = \log(a) + \log(1 + (ay-1))$ and that $\log(x)$ teaching of a spiral scan computer tomography ap a all a with improved image quality in cite in the control i comparison to conventional systems, and Watson ion method includes establishing a is used to increment or decrement a matrix, 255, a perceptual error matrix range for qu,v, between lower and upper bounds teaching or suggestion in the Pu.v. is then evaluated at midpoint of the range | S cited art for the claimed combination, the Section etton appears to be based on a hindsight reconstruction in which is plated tisclosi deen picked and chosen in an attempt ination is impermissible, and for this to deprecate the present invention Of course, suc 203 rejection be withdrawn. reason alone, Applicants respectfully request that

As the Federal Circuit has recognized, obvious essential and established mcrely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bdl Pat App. & Inter 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of applicants of scious in the prior art to combine such references, and a reasonable expectation of success one the both found in the prior art, and not

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based on Applicant's disclosure. In real acck, 20 tis P. 02 dis 36 (Fed. Cir. 1991). In the present case, neither a suggestion or motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

For the reasons set forth above Applicants respectively request that the Section 103 rejection of Claims 10-11 and 24-25 be withdrawn

Claims 13-14, 19-20, 33, and 35 are indicated as being allowable if amended to incorporate the recitations of the respective base defins and any respective intervening claims. Claim 35 depend, directly or indirectly, from independent Claim 15 which is submitted to be in condition for allowance. When the recitations of Glaim 35 are considered in combination with the recitations of Claim 15, Applicants submit that rependent Liam 35 is also in condition for allowance.

Claims 13, 14, 19, 20, and 33 depend, directly or indirectly, from independent Claim 31 which is submitted to be in condition for allowance. When the secitations of Claims 13, 14, 19, 20, and 33 are considered in combination with the section of Claim 31, Applicants submit that dependent Claims 13, 14, 19, 20, and 33 are also in combination for allowance.

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In view of the foregoing amenements and reapplication are believed to be in condition for allow claims now active in this nee ireconsideration and favorable action is respectfully solicited.

EASDALE LLP Square, Suite 2600 163102-2740